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November 6, 2013

HAND DELIVER

The Public Service Commission of South Carolina
Attn: Clerk's Office
Post Office Drawer 11649
Columbia, SC 29211



Re: Docket No. 2013-201-WS
Response to Rebuttal Testimony
11/4/2013 and 10/3/2013; and Direct
Testimony (9/19/2013) of Patrick C. Flynn

Members of the Commission:

The following is my Response to the direct and rebuttal testimonies of Mr. Flynn, on the dates set forth above. For the sake of possible brevity and clarity in this Response, I will address certain issues here and will attach Exhibits A and B, to assist in details. Further, the matters are not necessarily raised in the order Mr. Flynn used in his rebuttal testimony of November 4, 2013.

It should be first explained that all data used in my Summary and Testimony, and all data contained in Exhibits filed both on October 3, 2013, and November 4, 2013, (now collectively designated as Exhibit 10 in the record of Docket No. 2013-201-WS), were obtained from or derived through either York County public records; Freedom of Information Act requests to South Carolina Department of Health and Environmental Control and the Office of Regulatory Staff; and/or data and invoices produced by Utilities Services of South Carolina, Inc. either directly to its customers, or to ORS in connection with USSC's Application for rate increases in this case (invoices and spread-sheet invoices). That portion of LHF Exhibit C, Schedule B, filed as a visual aid, being pictures I photographed myself, with their descriptive labels, being the only exception. I believe it is important to emphasize that all summaries of USSC expenditures were derived, specifically, from actual examination of all invoices and spreadsheet invoices USSC produced and filed with the Office of Regulatory Staff in this matter.

As to Mr. Flynn's question about the amount of $44,600.00 total penalties assessed and paid to date to DHEC for ammonia and phosphorous violations occurring at Shandon and Foxwood wastewater treatment facilities, this is the total amount stated by DHEC. (Adding the two totals for each facility: see Exhibit H, Schedule 1, page 1, DHEC-Shandon; and see Exhibit H, Schedule 2, page 1, DHEC-Foxwood.) As stated in my Summary, this information was received in response to my request under the Freedom of Information Act (Exhibit F) to DHEC; and, as noted in the first page of my Summary, the DHEC documents were presented in Exhibit H "as received". The first penalty assessed to the Shandon facility resulted from a Consent Order 03-211-W, issued in 2003.

Doubt was expressed as to the origin and the amount of total expenditures, $374,453.70, which I characterize in my Summary as being related to the Shandon and Foxwood WWTPs violation levels of effluent discharge and work performed to bring Shandon and Foxwood out of violation status and back into DHEC compliance. These costs do not include the $44,600.00 in penalties paid to date for violatioins; and the costs included are only for the Foxwood and Shandon wastewater plants, from January 1, 2007, through December 31, 2012 (end of the test year in this case). The data is from actual invoices, including spreadsheet invoices, from USSC and filed with the Office of Regulatory Staff in this case, No. 2013-201-WS (see LHF Exhibit H, Schedule 9, pages 3-7, and 8-13). An individual summary for the Foxwood WWTP, is at page 11; Shandon at page 7; and spreadsheet invoices for each are shown on page 2, of LHF Exhibit H, Schedule 9. The Total Summary, page 1 of this Exhibit, sets out the Foxwood and Shandon categorical summaries based on the aforementioned "summary" pages, including the amount of $51,691.44 which was for either Shandon or Foxwood WWTP but not coded for either plant specifically, all of which were supported by the underlying invoices. Two amounts shown in the page 1 Total Summary are marked by "?" because no invoices were found for the DHEC Consent Order required inspection/sewer testing and extra monitoring reports for Shandon. The estimates shown are based on either the excess amount over previous test year averages (2004 and 2006), or the lack of such an expense in previous test years. The total amount, $374,453.70, represents wasted money spent by USSC on Shandon and Foxwood WWTPs. It remains to be seen what expenditures will now be made in 2013 under DHEC Construction Permit No. 37732-WW, issued July 25, 2013, for Foxwood WWTP, and if this latest attempt at compliance will be successful. Likewise, the Shandon expenses for an entirely new Package WWTP in 2013, under DHEC Construction Permit No. 37820-WW, issued September 27, 2013, are unknown. What is known, however, is that these future expenses would also be unnecessary or greatly reduced if the wastewater treatment plants had been properly monitored and maintained.

Mr. Flynn implied, if not stated, in his 11/4/2013 rebuttal testimony, that I have some sort of affinity for the Shandon ponds – which is not the case. My feeling over the loss of the Shandon lagoon wastewater system is one of clear outrage that an otherwise viable system, which could have served Shandon for many more years, was destroyed to the point of necessary replacement, by USSC's neglect and inattention to phosphorous levels rising to the point of violation, and mis-management of the system. Information provided in this or earlier rate increase cases has set the "useful life" of a wastewater treatment system at 66+ years for asset depreciation purposes, alone (notwithstanding an actual use for a greater number of years). There are 38 Shandon homes with USSC sewer service. The only change over the years has been a reduction in the members of a household as grown children leave and the number of residents living in a home is reduced.

Mr. Flynn's assurances that the ponds [containment/upper and finishing/lower] would be continued to be used by USSC for equalization purposes are not accurate. A careful reading of the "Special Conditions" contained in DHEC Construction Permit No. 37820-WW, issued for Shandon on September 27, 2013, states the upper lagoon may be utilized as storage [only] during high flow events or maintenance/shutdown of the Package WWTP; and a recirculation pump located in the upper lagoon will be utilized to pump the excess [only] wastewater back to the bar screen upstream of the Package WWTP [for ultimate processing and effluent discharge]. Meanwhile, the outfall pipe between the upper and lower lagoons is to be permanently plugged, so as to not allow any flow to reach the lower lagoon. DHEC will not allow any future effluent discharges from the lagoons; and the upper lagoon becomes merely a temporary, emergency holding tank for wastewater that still must be processed only by the replacement Package WWTP. USSC's attempts to remedy the violation levels of phosphorous effluent discharge for Shandon were a matter of "too little, too late" – an example of a waste of customers' money and continued pollution of the watershed.

It was noted in my Summary, (bracketed note at the bottom of page 2) that the abbreviation "MR" stands for "monitor and record", meaning these effluent levels should be taken, recorded and monitored. Further, pursuant again to the documents from DHEC, the Surface Water Discharge Permits are specifically issued for an "effective" and "expires" dated period, with any modification date noted. As stated in the Summary, effluent discharge limitations are site specific. The numerical limitation level is often set for a characteristic after a period of "monitoring and recording" data. Your attention is directed to LHF Exhibit H, Schedule 1, pages 3 through 8, DHEC – Shandon (three consecutive Surface Water Permits issued to USSC for Shandon WWTP). The first Shandon Discharge Permit, effective 3/1/1995 through 2/28/2000 (modified 7/16/1998), clearly states the numerical ammonia limits, while designating "monitor and record" as to phosphorus. Then in the second Permit period, effective 9/25/2000 through 9/30/2005 (modified 10/1/2002), USSC was notified that effective February 1, 2001, the numerical phosphorous discharge limit would be "0.12". The Foxwood Surface Water Discharge Permit issued to USSC 12/5/2000, effective 1/1/2001 through 9/30/2005 (modified 10/1/20002), clearly states that the phosphorous discharge limit for Foxwood was in place as of March 1, 2003. At all times from the issuance of first Permits for these facilities, USSC was at least under a duty to monitor and record effluent discharge levels for all stated characteristics.

If I understood Mr. Flynn correctly, a statement was made in his rebuttal testimony on November 4, 2013, that in 2002 and immediately following, it would not have been prudent to spend funds on trying to correct what was known to be an oxidation problem at the Shandon lagoon. This was a judgment call which turned out to be in error when under DHEC Consent Order 03-211-W a penalty was levied for violations at Shandon WWTP, and the Order required an upgrade to the Shandon facility to meet ammonia discharge limits. Mr. Flynn has failed to substantiate with facts his assertion that the Shandon WWTP was in trouble when USSC took over its operation in 2002. Time and time again, USSC expenditures for the Shandon and Foxwood wastewater plants have been in direct response to violations of effluent discharge limits, and DHEC requirements that the plants be brought into compliance. These expenditures were not preventative "upgrades"; rather, they were expenditures remedial in nature, resulting from violations, and necessary to bring Shandon and Foxwood back to and within longstanding DHEC levels of discharge compliance. (See LHF Response Exhibit A, as to specific examples of what I believe to be misstatements by Mr. Flynn in expense figures and characterization of these items as so –called "upgrades".)

Regarding the matter of water quality for Shandon, in his direct testimony filed September 19, 2013, Mr. Flynn stated at pages 6-7 (and I will paraphrase) that since 2006, the results of lead sampling have been below the Action Level. This is not true as shown in Water Quality Test Results by (a) the lack of any lead test result information in 2008; and the violation level of a lead sample in 2009 (39.5) with no data given as to the other samples' average level; and 2010 (violation noted in the first half of that year, but no actual numerical level was entered for the 10 sample-average not in violation for the second half of 2010, just a note that "no samples collected exceeded the Action Level" with an entry of "0", an unlikely average level for 10 samples tested). Further, with respect to levels of copper, I believe Mr. Flynn misspoke when he stated the copper excesses occurred in "2008" and samples taken in "2009" and the first half of 2010 were below the Action Level. Per the Water Quality Test Results, copper was not at an Action Level until and in both portions of 2010 (3 of 10 samples tested at 1.8 first half; and 2 of 10 tested at 1.4 in the second half of 2010). Again, a misstatement in Mr. Flynn's testimony, when the 2011 data and "Note" show that copper was at 1.5 levels all of 2011. Further, in both his direct and rebuttal (11/4/13) testimonies, Mr. Flynn indicated that in 2012 there was no copper violation – which is not the case. (The number of samples is not shown, but I will assume the number from the 2011 DHEC reporting requirements) In 2012, 1 of 10 samples was in violation although the value is not given; while the other samples had an average value of 1.10 ppm.

I believe my graphs to be as accurate as possible, based upon the actual Water Quality Test Results and Reports (Revised Exhibit B, Schedule 1, pages 1-2). The purpose in including Revised Exhibit B was to show that lead violations still occur and copper violations have developed since the end of the test year (2006) and last rate increase request, Docket No. 2007-286-WS. In his rebuttal testimony of 11/4/2013, Mr. Quinn appeared to have some difficulty in reading the 2012 Water Quality Test Results and Report accurately. In my Summary Testimony, at page 5, in the second paragraph, I explain that the two columns "Level Detected" and "Range of Detects of # of Samples Exceeding MCL/AL" should be read together, along with the "Please Note" comments. To call attention to these and other factors within the Reports, I attach here as Exhibit B, the 2008-2012 reports marked in "red" where appropriate. Information is given repeatedly in the Reports that high levels of lead and copper in the tests' results are associated with leaching from residential plumbing – which may be true, but is not the only reason. Most all Shandon homes were built between 1975 and 1978, so share the same "aged" plumbing. Therefore, one would suppose that residential samples for lead and copper would be somewhat the same and constant. Instead, the recorded levels vary from time to time in amount and number, and still show a general tendency to increase. As stated before, the abnormal increase in by-products of chlorinated drinking water (TTHM and HAA5) should also be considered and watched.

When referring to the most recent, significant billing issue between USSC and its Shandon customers, Mr. Flynn misstated the year as 2008, when this occurred. The date was actually November, 2010, (see LHF Exhibit A, complaint letter dated November 29, 2010). It became necessary for individual customers to try and contact USSC to solve the problem of pro-rated base water and flat sewer fees being charged; and then to file complaints with the Consumer Division of the Office of Regulatory Staff for a satisfactory resolution calling for a refund to approximately 786 affected customers.

In rebuttal testimony, filed October 16, 2013, in response to comments made by USSC customer Richard Shotwell, at the October 3, 2013, with his photograph exhibit, and repeated by Mr. Flynn in his rebuttal testimony on November 4, 2013, Mr. Shotwell's underlying concern was not addressed. (This was also noted in LHF Exhibit C, as photographic comparisons of the Shandon, Carowood, and Country Acres pressurized water holding tanks.) What was the comparative cost charged to, for

instance, Shandon Subdivision for a 10,000 gallon water holding tank versus a 6,000 or even 7,500 gallon tank? Or to Carowood (81 water customers) for a 15,000 gallon tank rather than 10,000 gallons, where Country Oaks with 139 water customers uses a 15,000 gallan tank? (Mr. Flynn misstated the date of the Shandon replacement tank; it was installed in the fall of 2011, at 3031 Shandon Road, which is Mr. Shotwell's property.) A 6,000 gallon tank was previously approved and deemed sufficient by DHEC for Shandon's 71 water customers. (DHEC must approve a holding tank capacity based on the number of water customers; DHEC, though, does not approve or disapprove a greater than necessary sized tank.) Whereas USSC is not required to respond to customer comments at the public hearings, but having chosen to do so through its representative, Mr. Flynn, in rebuttal testimony, I should think a complete answer would be more appropriate. Of course a larger tank will store a larger amount of water, and may have no material impact on the operating cost to the water system. Shandon has three wells from which to pump water to the tank, so sufficiency is not an issue. Delivery performance is a matter of pressurization, not volume. What was the difference in initial cost of the different sized tanks? USSC should use reasonable efforts to minimize costs which will be passed on to its customers.

I respectfully submit my Response to the testimony of Mr. Patrick C. Flynn, with attached Exhibits A and B, by hand delivery to the Clerk's Office, for filing with the Public Service Commission of South Carolina, this 7th day of November, 2013.

Linda H. Fick

Linda H. Fick
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CERTIFICATE OF MAILING

The undersigned hereby certifies that true and correct copies of this Response, with attached Exhibits A and B, were deposited in the U.S. mail, postage prepaid, this 7th day of November, 2013, addressed to: Office of Regulatory Staff, 1401 Main Street, Suite 900, Columbia, SC 29201; Charles L.A. Terreni, Esq., Terreni Law Firm, LLC, 1508 Lady Street, Columbia, SC 29201; and Scott Elliott, Esq., Elliott & Elliott, P.A., 1508 Lady Street, Columbia, SC 29201.

Linda H. Fick

LHF RESPONSE EXHIBIT A: Examples of Expense Detail and Characterization Issues

Mr. Flynn referred to LHF Exhibit H, Schedule 8, which shows a relative size comparison between the Shandon and Foxwood lagoons (WWTPs). Focusing on the York County Pictometry picture of the Shandon plant (taken 2/06/2009), attention was called to the single aerator in use in the upper pond (containment) as an indication of a step to improve that facility, I assume prior to the picture date. However, there is no invoice for this aerator in those provided to ORS by the company, USSC, in the period from the last rate increase application (January 1, 2007, Docket No. 2007-286-WS) through the first Shandon waste-water plant equipment invoice: dated 4/1/2010, for a pump hoist and labor to check aerator motor burn out (LHF Exhibit H, Schedule 9, page 8, (PDF File 5(b), document p. 13). PDF documents at pp. 17,20,21,22 (dated 4/29/10 through 9/1/10), indicate that the aerator was not operational for 6 months (4/1/10 – 9/1/10). Without a dated invoice, we do not know when this action was initiated or why.

By checking PDF 5(b) Spreadsheet Invoices Re Sewer Plants (LHF Exhibit H, Schedule 9, pp.2-6) and PDF 1 Shandon Invoices (Sewer) (LHF Exhibit H, Schedule 9, pp.8-9) and PDF 2 Foxwood Invoices (Sewer) (LHF Exhibit H., Schedule 9, pp.10-11), the following information is shown: (1) That with only three exceptions (discussed in (3) below), all Foxwood wastewater expenditures from 1/16/2008 through 3/17/2010, were for engineering, design, drawings, justifications and calculations related to DHEC compliance issues, violations, and required remedial action (total: $43,551.25);

(2) That the Shandon wastewater expenditure 1/18/2008 (document 5, PDF 5(b), Spreadsheet Invoices), (perhaps in response to the Foxwood situation), and all Shandon wastewater expenditures from 10/31/2008 through 4/29/2010, with one exception (4/1/2010, see above re pump hoist, check on aerator motor), were for similar engineering, design, drawings, justifications and calculations related to DHEC compliance issues, violations, and required remedial action Shandon (combined total: $10,220.00);

(3) The three exceptions, for actual equipment or on-site work at the Foxwood wastewater plant, were (a) $20,000 to Environmental Fabrics, 12/17/07, which was a deposit for work completed 12/15/10, with a balance due of $49,795.00 (total: $69795.00, see PDF 5(b), Invoices from Spreadsheet (Sewer), LHF Exhibit H, Schedule 9, pp.3-4, pdf documents pp.1,27,32); (b) $2,800.00 , on 10/9/08, to Bouleware Welding and Fabric, chlorine contact and walkway safety; and (c) $7,850.00 to Nick Follmer Construction, 3/17/2010, for construction and installation of a utility building, see pdf document p. 12.

(4) Mr. Flynn stated in his rebuttal testimony on November 4, 2013, that with respect to the Shandon facility, USSC took steps to "upgrade" the facility, and each were attempted in sequence. In fact, any such steps were not for upgrade purposes, but rather for remedial DHEC compliance purposes. As to the Foxwood "baffles, at a cost of "$50,000.00, for prevention purposes", this expense was also of a DHEC remedial nature, to bring Foxwood into compliance with discharge levels. (This was actually at a cost of $69,795.00, with $20,000 paid as a deposit in 12/17/2007, and a final balance of $49,795.00 was paid 12/15/2010.)

(5) These expenditures and others were in direct necessity to maintaining the Shandon and Foxwood facilities at DHEC compliance levels of effluent discharge. Ultimately these expenditures were unsuccessful and a waste of money (remember: the proposed remedies to violation situations are made by the utility, USSC, to DHEC; and DHEC does not comment on the efficacy of the plan – it is entirely up to USSC to come up with a solution to violation situations). Therefore, the entire expense was wasted; and DHEC imposed balances of penalties and issued Consent Orders requiring remedial action again be taken at each facility.

(6) Mr. Flynn stated in his direct testimony, 9/19/2013, at page 3, that Foxwood WWTP expenditures totaled $175,000.00 in 2011; and that $91,000.00 was spent for the Shandon WWTP in 2009 and 2011 to meet nutrient limits. However, Mr. Flynn stated in his rebuttal testimony, 11/4/13, that $91,000.00 was the total spent in 2011 and 2012 for the Foxwood and Shandon facilities. I believe he misspoke. The total Shandon and Foxwood expenditures for both 2011 and 2012 was $120,130.31, per invoices submitted. This sum, as with earlier expenditures was wasted; the money and efforts failed in their attempts to remedy the discharge limit violations, and the 2012 penalties were levied, and Consent Orders were issued directing USSC to yet again bring the WWTPs into compliance. (See respective 2013 Construction Permits for Foxwood and Shandon)

(7) If I heard correctly, I believe Mr. Flynn stated in rebuttal testimony (11/4/13) that $71,000.00 was spent [during this No. 2013-201-WS ?] for work at the Carowood wastewater treatment plant. Invoices show the total amount from January 1, 2007, through December 31, 2012, to be only $4,576.03. In Docket No. 2007-286-WS, late filed (9/21/12) Exhibit 4, "Total Improvements by Specific

Subdivision – Carowood Subdivision" shows a $71,025.91 expenditure, but that was considered under the previous case, No. 2007-286-WS, and should not be repeated in this Application. (The expenditure was for excavation around the WWTP, reset plant plumb and level, site work for drainage, installation of new utility building and site work, installation of new wire box for flow measurement.)

(8) It should be noted that three of the invoices pertaining to the USSC spreadsheet were removed from the "Total Summaries", LHF Exhibit H, Schedule 9, p. 1, because they did not belong to USSC: Tega Cay, BU#406101, 5/27/10, in the amount of $30,079.55; Tega Cay, BU#406101, 8/31/11, in the amount of $8,571.97; and FedEx, invoice date July 6, 2011, for delivery services June 27-30, 2011, in the amount of $471.11 "with discount", because no BU# was present, and addresses did not appear to be exclusively USSC-related. A total of $39,122.63 was not included in the Total Summaries .

# 2013-201-WS

LHF Response Exhibit, p. 1

SHANDON WATER QUALITY REPORT 2012 USSC #CCR 379

## Water Quality Test Results

| TEST RESULTS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Contaminant | Violation Y/N | Date Collected | Level Detected | Range of Detects or # of Samples Exceeding MCL/AL | Unit of Measurement | MCLG | MCL | Likely Source of Contamination |
| **Radioactive Contaminants** | | | | | | | | |
| Alpha emitters(B46002) | N | 2008 | 4.1 | N/A | pCi/L | 0 | 15 | Erosion of natural deposits. |
| Combined Radium(B46002) | N | 2008 | 0.4 | N/A | pCi/L | 0 | 5 | Erosion of natural deposits. |
| **Inorganic Contaminants** | | | | | | | | |
| Cadmium | N | 2008 | 0.11 | ND-0.11 | ppb | 5 | 5 | Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries & paints. |
| Copper | (Y) | 2012 | 1.1 | (1) | ppm | 1.3 | AL=1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives. |
| Thallium | N | 2011 | 0.68 | N/A | ppb | 2 | 2 | Discharge from electronics, glass, and leaching from ore-processing sites, drug factories. |
| Fluoride | N | 2011 | 0.16 | 0 - 0.16 | ppm | 4 | 4 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer & aluminum factories. |
| Lead | N | 2012 | 5 | 0 | ppb | 0 | AL=15 | Corrosion of household plumbing systems, erosion of natural deposits. |

Please Note: Both copper and lead in drinking water are associated with leaching form residential plumbing. USSC implemented an Optimal Corrosion Control Treatment Plan (OCCT) to reduce the amount of lead and copper in your drinking water in August 2012. Sampling in the first half of 2012 should provide results well within the action level for both lead and copper.

*Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.*



-Continued-

2012 WATER QUALITY **Water Quality Test Results** SHANDON

| TEST RESULTS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Contaminant | Violation Y/N | Date Collected | Level Detected | Range of Detects or # of Samples Exceeding MCL/AL | Unit of Measurement | MCLG | MCL | Likely Source of Contamination |
| **Inorganic Contaminants** | | | | | | | | |
| Nitrate (as Nitrogen) | N | 2011 | 0.71 | 0.13 - 0.71 | ppm | 10 | 10 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits. |
| **Disinfection By-Products** | | | | | | | | |
| Haloacetic Acids (HAA5) | N | 2011 | (19) | 1.12 - 19 | ppb | N/A | 60 | By-product of drinking water chlorination. |
| TTHM (Total Trihalomethanes) | N | 2011 | (38.3) | 5.53 - 38.3 | ppb | N/A | 80 | By-product of drinking water chlorination. |
| Chlorine | N | 2012 | RAA=0.80 | 0.50-1.30 | ppm | MRDLG=4 | MRDL = 4 | Water additive used to control microbes. |
| **Synthetic Organic Contaminants including Pesticides and Herbicides** | | | | | | | | |
| Di(2-ethylhexyl) phthalate | N | 2008 | 3 | 0.88-3 | ppb | 0 | 6 | Discharge from rubber & chemical factories. |

# 2013-201-WS

LHF Response Exhibit P-2

## 2011 Water Quality Test Results SHANDON

| Contaminant | Violation Y/N | Date Collected | Level Detected | Range of Detects or # of Samples Exceeding MCL/AL | Unit of Measurement | MCLG | MCL | Likely Source of Contamination |
|---|---|---|---|---|---|---|---|---|
| **Radioactive Contaminants** | | | | | | | | |
| Alpha emitters(8465002) | N | 2008 | 4.1 | N/A | pCi/L | 0 | 15 | Erosion of natural deposits. |
| Combined Radium(8465002) | N | 2008 | 0.4 | N/A | pCi/L | 0 | 5 | Erosion of natural deposits. |
| **Inorganic Contaminants** | | | | | | | | |
| Cadmium | N | 2008 | 0.11 | ND-0.11 | ppb | 5 | 5 | Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries & paints. |
| Copper | (Y) | 2011 | (1.5*) | (2) | ppm | 1.3 | AL=1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives. |
| Thallium | N | 2011 | 0.68 | N/A | ppb | 2 | 2 | Discharge from electronics, glass, and leaching from ore-processing sites, drug factories. |
| Fluoride | N | 2011 | 0.16 | N/A | ppm | 4 | 4 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer & aluminum factories. |
| Lead | N | 2011 | 4 | 0 | ppb | 0 | AL=15 | Corrosion of household plumbing systems, erosion of natural deposits. |

Please Note: The level of copper measured in two of ten samples from the first half and second half of 2011 exceeded the copper action level of 1.3 ppm. This caused the 90th percentile to also be exceeded in 2011. Both copper and lead in drinking water are associated with leaching form residential plumbing. USSC implemented an Optimal Corrosion Control Treatment Plan (OCCT) to reduce the amount of lead and copper in your drinking water in August 2011. Sampling in the first half of 2012 should provide results well within the action level for both lead and copper.

*Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.*

Shandon 2011 CCR 379
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## -Continued- 2011 Water Quality Test Results SHANDON

| Contaminant | Violation Y/N | Date Collected | Level Detected | Range of Detects or # of Samples Exceeding MCL/AL | Unit of Measurement | MCLG | MCL | Likely Source of Contamination |
|---|---|---|---|---|---|---|---|---|
| **Inorganic Contaminants** | | | | | | | | |
| Nitrate (as Nitrogen) | N | 2011 | 0.71 | 0.13 - 0.71 | ppm | 10 | 10 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits. |
| **Disinfection By-Products** | | | | | | | | |
| Haloacetic Acids (HAA5) | N | 2011 | (19) | 1.12 - 19 | ppb | N/A | 60 | By-product of drinking water chlorination. |
| TTHM (Total Trihalomethanes) | N | 2011 | (38.3) | 5.53 - 38.3 | ppb | N/A | 80 | By-product of drinking water chlorination. |
| Chlorine | N | 2011 | RAA=1.13 | 0.56-1.59 | ppm | MRDLG=4 | MRDL = 4 | Water additive used to control microbes. |
| **Synthetic Organic Contaminants including Pesticides and Herbicides** | | | | | | | | |
| Di(2-ethylhexyl) phthalate | N | 2008 | 3 | 0.68-3 | ppb | 0 | 6 | Discharge from rubber & chemical factories. |

# 2013-201-WS

LHF Response Exhibit B p-3

## 2010 Water Quality Test Results Shandon

| Contaminant | Violation Y/N | Date Collected | Level Detected | Range of Detects or # of Samples Exceeding MCL/ALG | Unit Measurement | MCLG | MCL | Likely Source of Contamination |
|---|---|---|---|---|---|---|---|---|
| **Radioactive Contaminants** | | | | | | | | |
| Alpha emitters(B40002) | N | 2008 | 4.1 | N/A | pCi/L | 0 | 15 | Erosion of natural deposits. |
| **Inorganic Contaminants** | | | | | | | | |
| Cadmium | N | 2008 | 0.11 | ND-0.11 | ppb | 5 | 5 | Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries & paints. |
| Copper (90th percentile) | N | 2010 January-June | 1.8 | 3 | ppm | 1.3 | AL=1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives. |
| Copper (90th percentile) | N | 2010 July-December | 1.4 | 2 | ppm | 1.3 | AL=1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives. |
| Fluoride | N | 2008 | 0.1 | ND-0.1 | ppm | 4 | 4 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer & aluminum factories. |
| Lead (90th percentile) | N | 2010 January-June | 10 | 1 | ppb | 0 | AL=15 | Corrosion of household plumbing systems, erosion of natural deposits. |
| Lead (90th percentile) | N | 2010 July-December | 0 | 0 | ppb | 0 | AL=15 | Corrosion of household plumbing systems, erosion of natural deposits. |
| Nitrate (as Nitrogen) | N | 2010 | 0.82 | 0.031-0.82 | ppm | 10 | 10 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits. |
| **Disinfection By-Products** | | | | | | | | |
| TTHM (Total Trihalomethanes) | N | 2008 | RAA=4.615 | 3.76-4.87 | ppb | N/A | 80 | By-product of drinking water chlorination. |
| Chlorine | N | 2010 | RAA=0.92 | 0.59-1.25 | ppm | MRDLG=4 | MRDL = 4 | Water additive used to control microbes. |
| **Synthetic Organic Contaminants including Pesticides and Herbicides** | | | | | | | | |
| Di(2-ethylhexyl) phthalate | N | 2008 | 3 | 0.68-3 | ppb | 0 | 6 | Discharge from rubber & chemical factories. |

*Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791). Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.*

*Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.*

The amount of lead measured in one of the ten samples collected from your water system during the first six months of 2010 exceeded the Action Level of 15 ppb; no samples collected in the last six months exceeded the Action Level. The 90th percentile was not exceeded during 2010. Normally the source of the lead is from the residential plumbing. The level of copper measured in three of ten and two of ten samples from the first half and second half of 2010 exceeded the copper action level of 1.3 ppm. This caused the 90th percentile to also be exceeded in 2010. Both copper and lead in drinking water are associated with leaching form residential plumbing. USSC is in the process of implementing an Optimal Corrosion Control Treatment Plan (OCCT) to reduce the amount of lead and copper in your drinking water.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Utilities Services of South Carolina, inc. is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Do not boil your water to remove lead. Excessive boiling makes the lead more concentrated – the lead remains when the water evaporates. Do not cook with or drink water from the hot water tap; lead dissolves more easily into hot water. If you are concerned about lead in your

# 2013-201-WS

LHF Response Exhibit E p.4

## 2009 WATER QUALITY TEST RESULTS SHANDON

| TEST RESULTS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Contaminant | Violation Y/N | Date Collected | Level Detected | Range of Detects or # of Samples Exceeding MCL/AL | Unit of Measurement | MCLG | MCL | Likely Source of Contamination |
| **Radioactive Contaminants** | | | | | | | | |
| Alpha emitters(846002) | N | 2008 | 4.1 | 0 | pCi/L | 0 | 15 | Erosion of natural deposits. |
| **Inorganic Contaminants** | | | | | | | | |
| Cadmium | N | 2008 | 0.11 | ND-0.11 | ppb | 5 | 5 | Corrosion of galvanized pipes, erosion of natural deposits, discharge from metal refineries, runoff from waste batteries & paints. |
| Copper (90th percentile) | N | 2009 | 1.1 | 0 | ppm | 1.3 | AL=1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |
| Fluoride | N | 2008 | 0.1 | ND-0.1 | ppm | 4 | 4 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer & aluminum factories. |
| Lead (90th percentile) | (Y) | 2009 | 39.5 | 1 of 5 | ppb | 0 | AL=15 | Corrosion of household plumbing systems, erosion of natural deposits. |
| Nitrate (as Nitrogen) | N | 2009 | 0.7 | 0.37-0.7 | ppm | 10 | 10 | Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits |
| **Disinfection By-Products** | | | | | | | | |
| TTHM (TOTal Trihalomethanes) | N | 2009 | RAA=4.015 | 3.76-4.87 | ppb | 0 | 80 | By-product of drinking water chlorination. |
| Chlorine | N | 2009 | RAA=0.92 | 0.69-1.10 | ppm | MRDLG= 4 | MRDL = 4 | Water additive used to control microbes. |
| **Synthetic Organic Contaminants including Pesticides and Herbicides** | | | | | | | | |
| Di(2-ethylhexyl) phthalate | N | 2008 | 3 | 0.88-3 | ppb | 0 | 6 | Discharge from rubber & chemical factories |

*Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791). Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.*

The amount of lead measured in one of the five samples collected from your water system exceeded the Action Level of 15 ppb; this caused the water system's calculated 90th% to also exceed the Action Level. Normally the source of the lead is from the residential plumbing. USSC has collected water quality samples to determine what actions can be taken by USSC to lessen the likelihood that lead will go into solution as the water moves through the residential plumbing. USSC is also collecting source water samples to ensure that the lead is not coming from the wells that serve your system. During 2010, USSC will be collecting more lead and copper samples as part of our water quality assurance testing.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Utilities Services of South Carolina, Inc. is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Do not boil your water to remove lead. Excessive boiling makes the lead more concentrated – the lead remains when the water evaporates. Do not cook with or drink water from the hot water tap; lead dissolves more easily into hot water. If you are concerned about lead in your drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available form the Safe Drinking Water Hotline (800-426-4791) or at http://www.epa.gov/safewater/lead.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity.

#2013-201-WS

LHF Response Exhibit B
P.5

## 2006 WATER QUALITY REPORT SHANDON USSC ID #4650009

| TEST RESULTS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Contaminant | Violation Y/N | Date Collected | Level Detected | Range of Detects or # of Samples Exceeding MCL/AL | Unit of Measurement | MCLG | MCL | Likely Source of Contamination |
| **Radioactive Contaminants** | | | | | | | | |
| Alpha emitters(B46001) | N | 2006 | 2.34 | 1.31-3.69 | pCi/l | 0 | 15 | Erosion of natural deposits. |
| **Inorganic Contaminants** | | | | | | | | |
| Copper (90th percentile) | N | 8/06 | 0.75 | 0 | ppm | 1.3 | AL=1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives. |
| Lead (90th percentile) | (Y) | 8/06 | (23) | (2) | ppb | 0 | AL=15 | Corrosion of household plumbing systems; erosion of natural deposits. |
| Nitrate (as Nitrogen) | N | 2006 | 0.81 | 0.13-0.81 | ppm | 10 | 10 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits. |
| **Disinfection By-Products** | | | | | | | | |
| TTHM (Total Trihalomethanes) | N | 2005 | RAA=6 | 0 | ppb | 0 | 80 | By-product of drinking water chlorination. |
| Chlorine | N | 2006 | RAA=0.76 | 0.6-1.0 | ppm | MRDLG= 4 | MRDL = 4 | Water additive used to control microbes. |

> *Your water system exceeded the Action Level for Lead during the June to September sampling period in 2006. We issued a public notice at that time and began testing to determine if the lead was from the source water or was due to corrosion of household plumbing. The results of the testing indicated that the lead did not come from the water supply but may have been due to corrosion. We have collected additional water quality samples to determine if additional treatment is required to reduce the potential for corrosion and the possibility of lead leaching into your water from residential plumbing.*

## 2008 Water Quality Report SHANDON USSC System ID #4650009

(Received July, 2009)

| TEST RESULTS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Contaminant | Violation Y/N | Date Collected | Level Detected | Range of Detects or # of Samples Exceeding MCL/AL | Unit of Measurement | MCLG | MCL | Likely Source of Contamination |
| **Radioactive Contaminants** | | | | | | | | |
| Alpha emitters(B46002) | N | 2008 | 4.1 | 0 | pCi/l | 0 | 15 | Erosion of natural deposits. |
| **Inorganic Contaminants** | | | | | | | | |
| Cadmium | N | 2008 | 0.11 | ND-0.11 | ppb | 5 | 5 | Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries & paints. |
| Copper (90th percentile) | N | 2008 | 0.975 | 0 | ppm | 1.3 | AL=1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives. |
| Fluoride | N | 2008 | 0.1 | ND-0.1 | ppm | 4 | 4 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer & aluminum factories. |
| Nitrate (as Nitrogen) | N | 2008 | 0.83 | 0.18-0.83 | ppm | 10 | 10 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits. |
| **Disinfection By-Products** | | | | | | | | |
| TTHM (Total Trihalomethanes) | N | 2008 | (RAA=4.615) | 3.78-4.87 | ppb | 0 | 80 | By-product of drinking water chlorination. |
| Chlorine | N | 2008 | RAA=0.96 | 0.70-1.25 | ppm | MRDLG= 4 | MRDL = 4 | Water additive used to control microbes. |

No Test For Lead Included

> If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Utilities Services of South Carolina, inc. is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Do not boil your water to remove lead. Excessive boiling makes the lead more concentrated – the lead remains when the water evaporates. Do not cook with or drink water from the hot water tap; lead dissolves more easily into hot water. If you are concerned about lead in your drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available form the Safe Drinking Water Hotline (800-